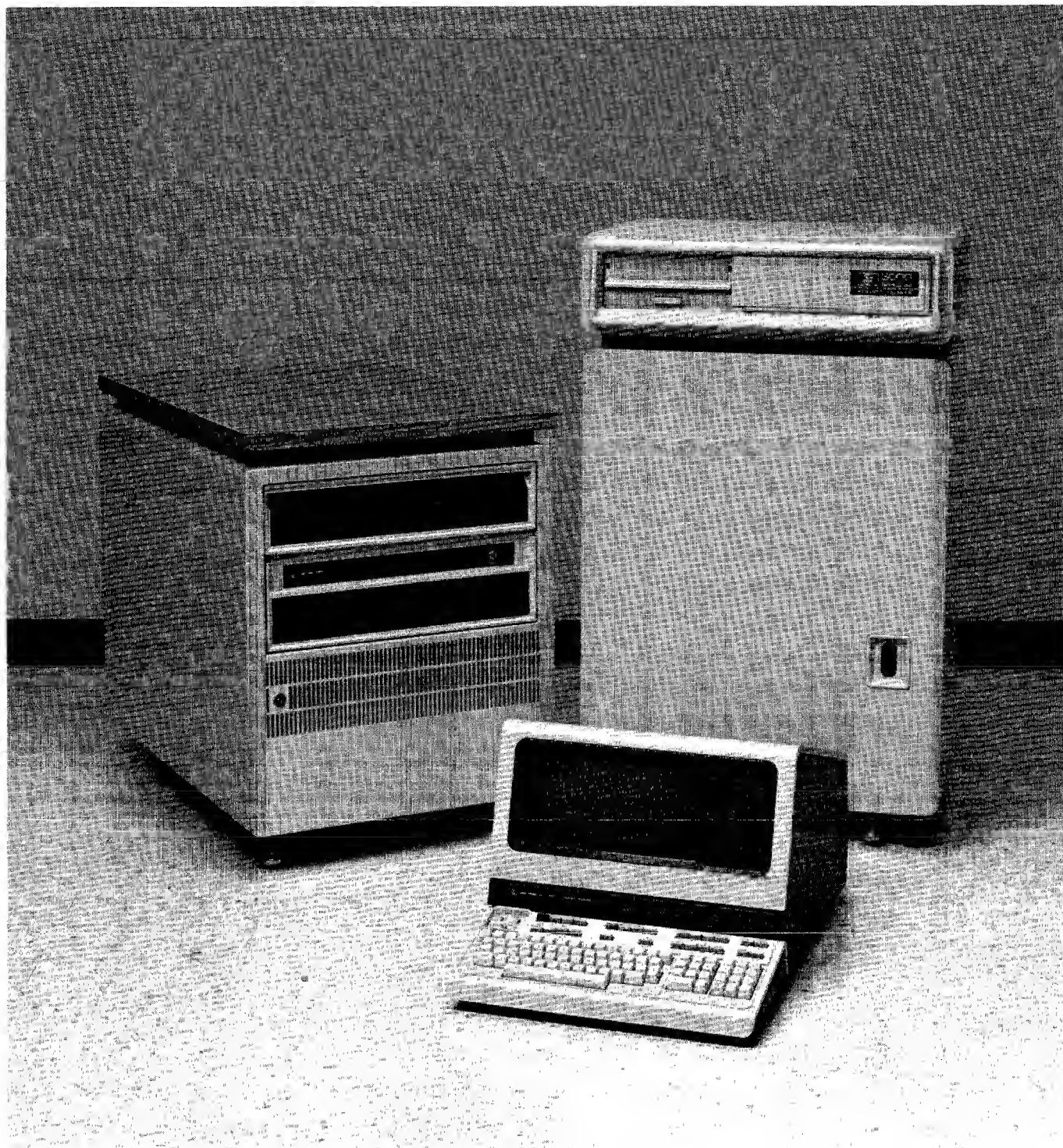


HP 3000 Series 30

HEWLETT  PACKARD

Installation Manual



HP 3000 Series 30 Computer Systems

Installation Manual



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PRINTING HISTORY

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This manual describes the installation activities for an HP 3000 Series 30 Computer System. These descriptions are intended for use by Hewlett-Packard Customer Engineers trained for the HP 3000/30 Computer Systems.

Before the system can be installed, the site must be adequately prepared as described in the Site Preparation Planning Guide (30080-90002).

Additional HP 3000/30 manuals and tools which may be helpful in installing the system are:

Product Support Package	30070-67801	
System Reference Training Manual	30070-90003	
Diagnostic Manual	30070-60068	(Copy with system)
Diagnostic Utilities	32231A	(Copy with system)
C.E. Handbook	30070-90010	
Console Operator's Guide	30070-90025	(Copy with system)
System Manager/System Supervisor Ref. Manual	30000-90014	(Copy with system)
MPE Utilities Manual		(copy with system)

Service and installation manual(s) for the peripheral devices installed with the system may also be helpful and should be taken on site if familiarity with the device is limited.

The organization of this manual presents the system installation activities in several sections. The areas presented are described as follows:

Section I-Defines Hewlett-Packard and Customer responsibilities in receiving the system.

Section II-Presents mechanical and electrical considerations for the processor.

Section III-Presents general installation instructions for the system hardware and software.

Section IV-Provides system/peripheral turn-on procedures.

Section V-presents system configuration and verification.

Section VI-Areas in which the HP Customer Engineer will familiarize the new system operator.

RECEIVING THE SYSTEM

SECTION

I

The Hewlett-Packard Customer Engineer (CE) is primarily responsible for the installation of the HP 3000/30 Computer System according to the information presented in this text. This includes installation and verification of the HP 3000/30 central processor and any HP 3000/30 peripheral devices which are part of the system order. Hewlett-Packard data terminals should be installed when appropriate. Refer to the policy on installing HP Data Terminals as described by Customer Service Division.

The customer should report any flaws in the shipment immediately, to the carrier or to the carrier's agent and to the HP Customer Engineer. Be sure to save all crates, cartons, boxes, and packing materials for inspection. Do not make any verbal reports of damage or missing items without making a written report. The Customer Engineer should report problems which are HP's responsibility to the Support Engineer at the appropriate HP division.

Missing or damaged items will be replaced by Hewlett-Packard without waiting for the settlement of claims. Items shipped to replace damaged parts will be billed to the customer. The customer has the task of collecting from the carrier.

The customer is responsible for initial unpacking, inspecting, and locating of the system. The disposing of packing material is also the responsibility of the customer.

Each Hewlett-Packard shipment has a packing list on one of the cartons specifying material shipped. In addition, unpacking instructions are provided, as required.

The Site Preparation Planning Guide outlines what the customer is required to do in receiving the system prior to installation.

GENERAL DESCRIPTION

SECTION

II

2-1. THE PROCESSOR

2-2. Physical Description

The processor is a completely tested and assembled unit prior to shipment. As a result the processor system will arrive at the site requiring no involved mechanical assembly. Figures 2-1, 2-2, and 2-3 illustrate the system processor.

2-3. Electrical Description

The processor unit is available for either 50-Hz or 60-Hz operation. The major hardware variation between these processors is the main power cord specified by each country, and the 7902 drive pulley for 50- and 60-Hertz power sources. The processor may be operated continuously from a single-phase, primary power source of 100 or 120 Vac for the 60-Hertz processor, or 220 or 240 Vac for the 50 Hertz processor. Each processor is shipped with an approved power cord as described in the HP 3000/30 Site Preparation Planning Guide, which also includes power and power cord connector specifications.

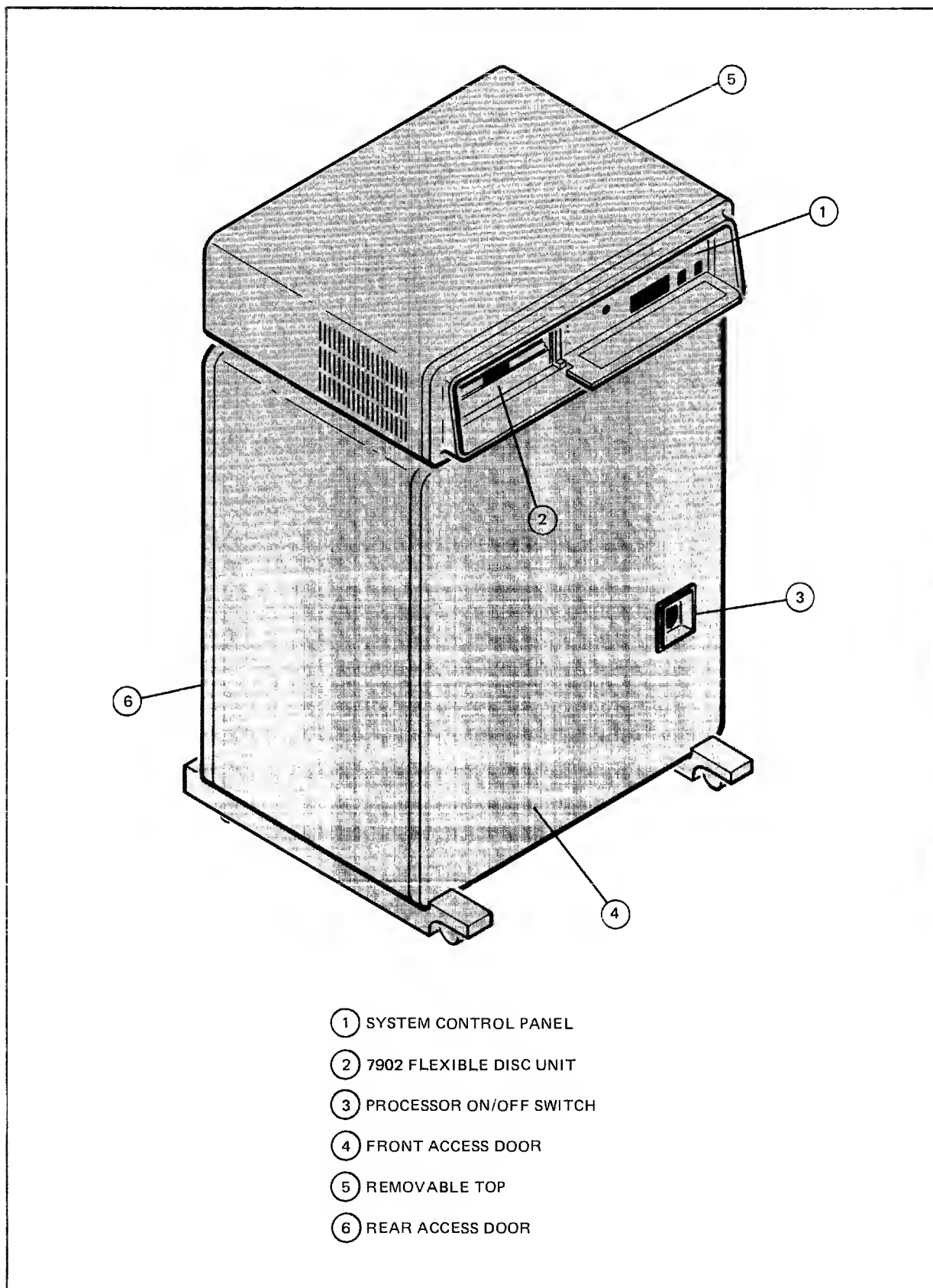
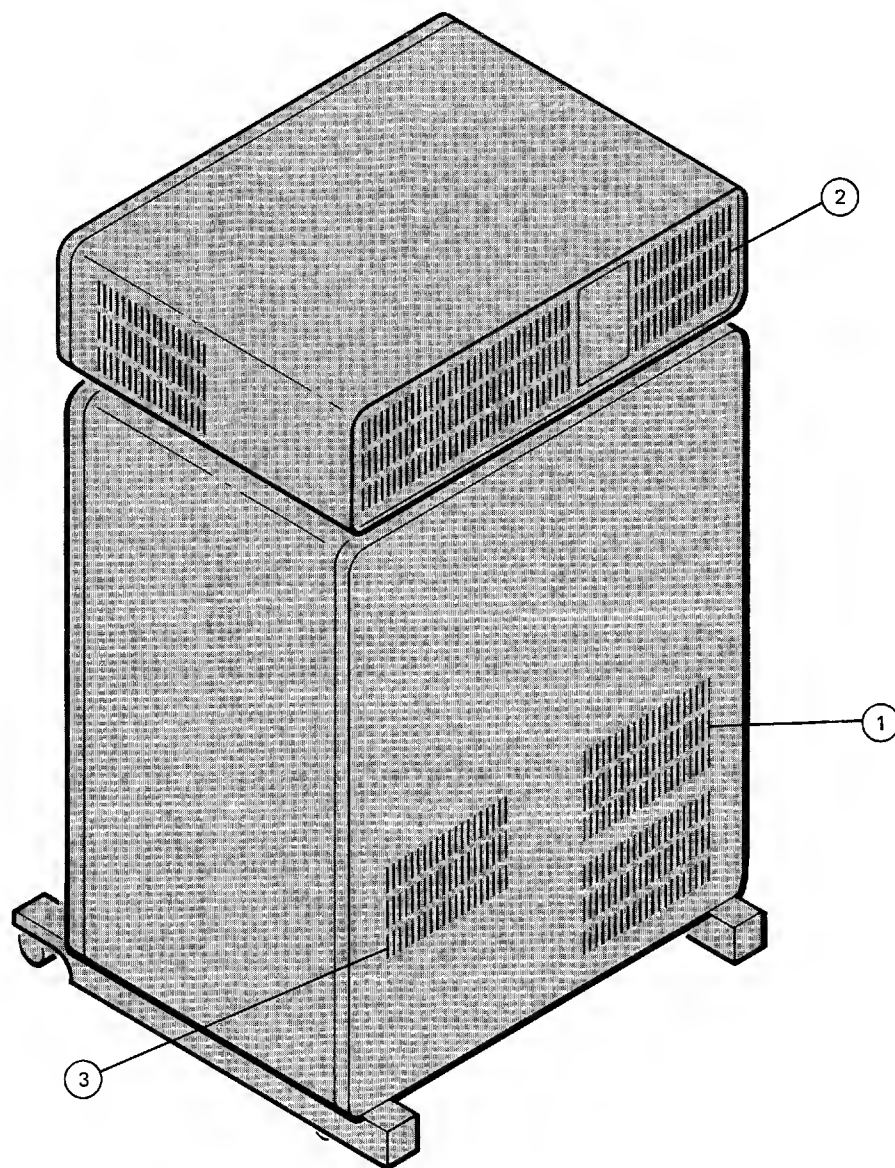


Figure 2-1. Front View



- ① POWER SUPPLY COOLING FAN
- ② 7902 EXHAUST AND COOLING FAN
- ③ MEMORY COOLING FAN

Figure 2-2. Rear View

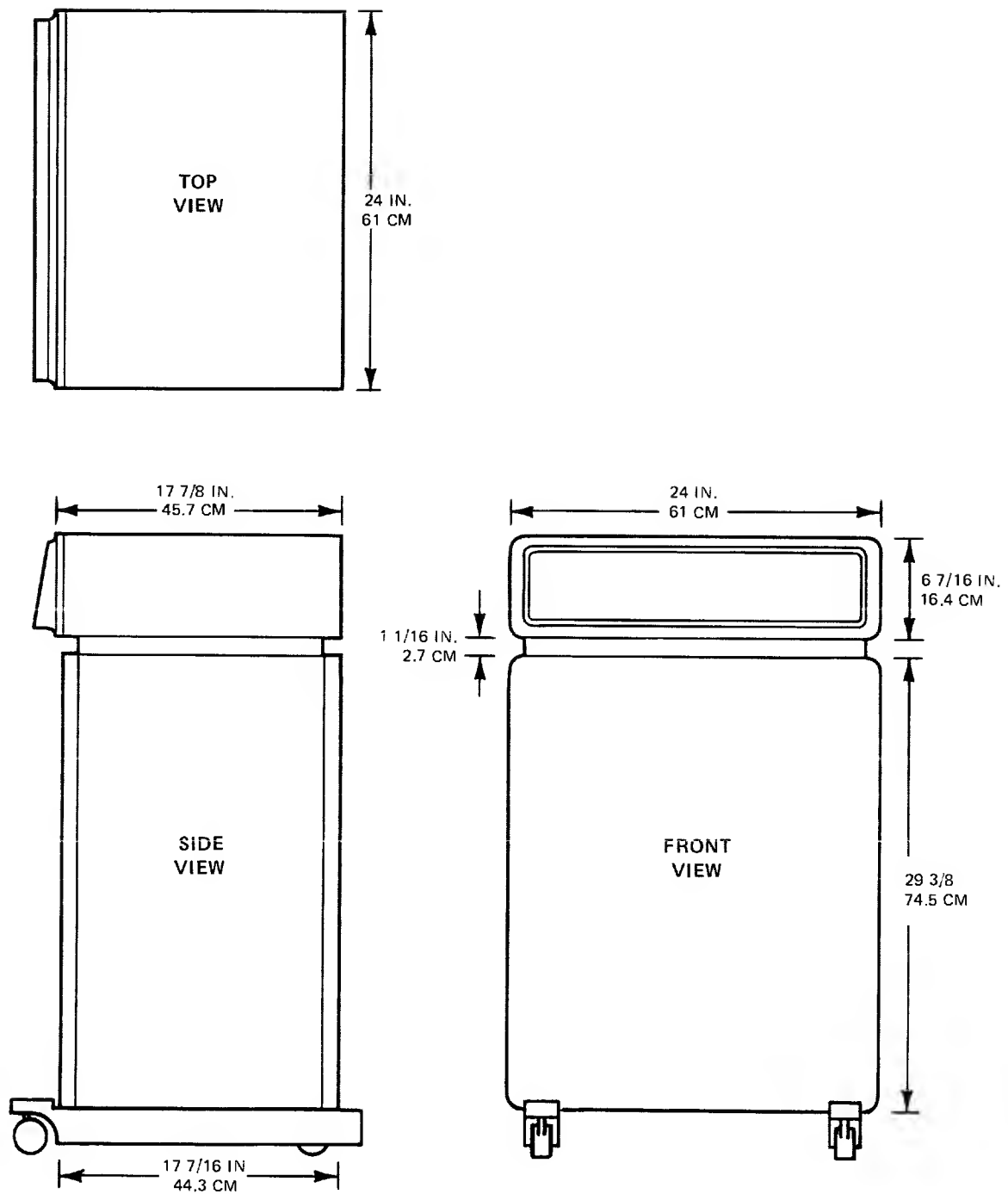


Figure 2-3. Dimension View

SYSTEM INSTALLATION PROCEDURE

SECTION

III

System installation is composed of the integration of the processor, the peripheral devices, and the system operating software. The peripheral devices interface with the processor through the Terminal and I/O Panels. Complete technical descriptions on the I/O system and other related hardware are available in the System Reference Training Manual. Topics covered in this section are listed below.

- Installing the Processor
- Installing the System Console
- Installing the Disc Subsystems
- Installing the other Peripheral Devices

NOTE

The following procedure should be started only after Sections I and II have been completed. Procedures in this section should be followed in the sequence in which they are presented.

3-1. INSTALLING THE PROCESSOR

The processor is installed as described in the following steps:

CAUTION

DO NOT plug in the unit at this time.
Instructions are in Section IV.

- Ensure that the unit is positioned in an area which allows for complete cabinet door access and AC power receptacle access.
- Secure and level the unit by adjusting the rubber feet near the casters.

- Ensure that the PROCESSOR ON/OFF switch is in the OFF position.
- Route the HP-IB I/O cables, ADCC cables, and AC power cord as shown in figures 3-1 and 3-2.
- Preset the system control panel as follows:

Thumbwheel	Channel Number	Device Number
LOAD (From 7902A)	6	2
START(Sys. Disc)	6	1
DUMP	6	1

3-2. INSTALLING THE SYSTEM CONSOLE

The system console is an HP 2649E terminal. It is installed as described in the following steps:

1. Locate the terminal with the nameplate "HP 3000" and place it on a table top near the processor. DO NOT place the console on the top of the processor cabinet.
2. Ensure that the terminal ON/OFF switch is in the OFF position.
3. Ensure that the power source voltage matches the terminal requirements (see 2649E Power Label).
4. Connect the AC power cord from the console to an available AC power source that conforms to guidelines specified in the Site Preparation Planning Guide.
5. Connect the console keyboard cable hood connector to the printed circuit card edge connector that has been notched to match the cable connector. Ensure that the grounding lugs on the terminal cables are attached to the terminal frame on the fixture next to the AC receptacle.

One end of the console data communication and remote cables, listed in table 3-1, are pre-connected to the first ADCC. Also, one end of the HP-IB cable, listed in table 3-1, is pre-connected to the MI PCA.

6. Route the free end of the cables (items 2,4, and 5) shown in figure 3-1 to the system console as described in table 3-1.

NOTE

The 02640-60086 and 02640-60143 are identically notched Terminal PCA's. Use the 02640-60143 PCA for the remote console connection and the other for the asynchronous session console connection.

Table 3-1. Cable Connections (50/60 Hz)

Cable	P/N	Console Connection
Keyboard	02640-60081	Keybd I/F/02640-60123
HP-IB I/O	02649-10631B	HP-IB/02640-60128
US Modem Cbl*	02640-60131	Data Comm./02640-60086
US Modem Cbl*	02640-60131	Gen. Purpose Async. 02640-60143
AC Power		A.C. Receptacle
*Europe Modem Cables, part number 5061-2409 used in place of U.S. Modem Cables for 50-Hz systems.		

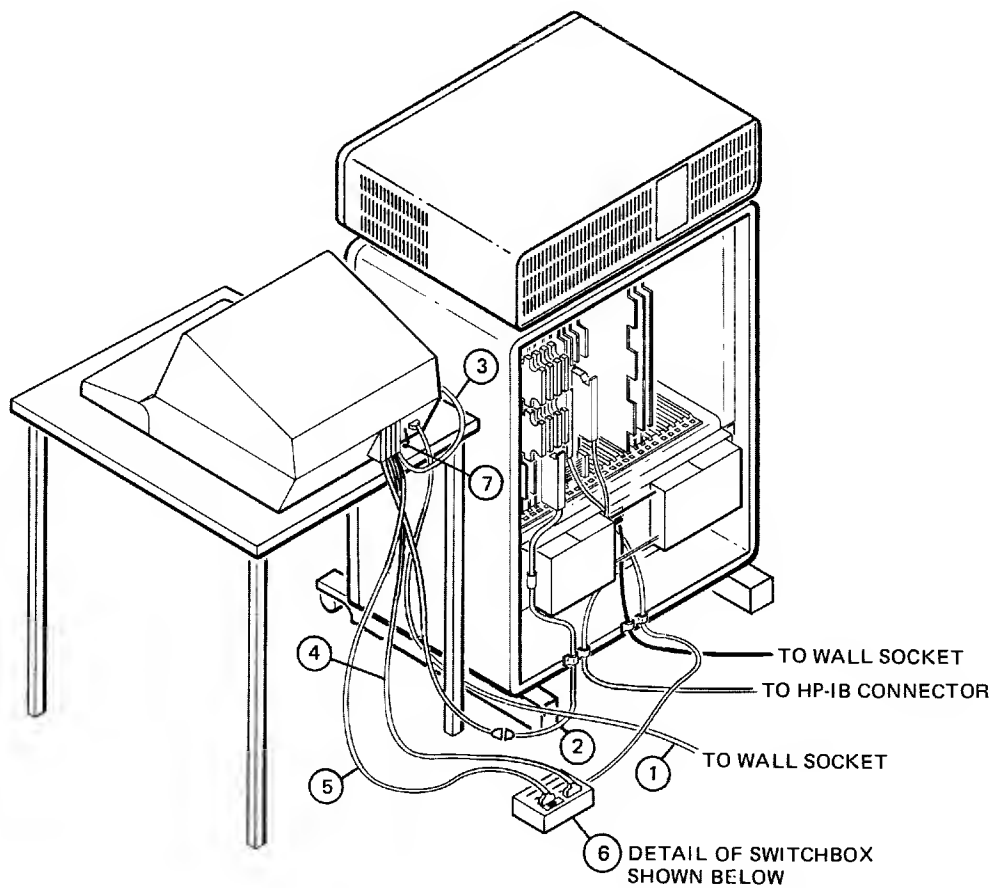
3-3. SYSTEM DISC

The 7906M, 7920M, 7925M may be configured as system discs. Ensure that the device select thumbwheel switch on the 13037C disc controller PCA is set to the proper device number for the standard configuration. (See figure 3-3.)

Position the system disc drive on the one side of the processor cabinet allowing for the full opening of any access doors. The system disc drive cabinet contains the HP 13037B disc controller. (identified with an "M" designator in the cabinet serial tag). Next, position slave disc(s) near the master disc unit.

3-4. HP 7906, 7920, OR 7925 SYSTEM DISC (MASTER)

These discs, when used as the system disc, interface to the system via the HP-IB device I/O cable. The cable, located in the rear of the disc cabinet, has one end pre-connected onto the disc HP-IB I/O connector. Connect the free end to the system as described in the following procedure and shown in figure 3-2.



- ① CONSOLE POWER CABLE
- ② HP-IB CABLE (02649-10631B)
- ③ KEYBOARD CABLE (02640-60160)
- ④ U.S. MODEM CABLE (02640-60131) (SESSION)
- ⑤ U.S. MODEM CABLE (02640-60131) (REMOTE)
- ⑥ SWITCHBOX AND CONNECTING CABLE (30080A)
- ⑦ TERMINAL GROUNDING CABLE

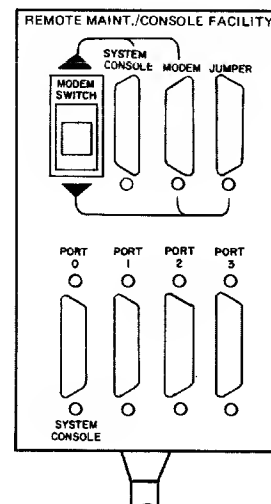


Figure 3-1. Processor-to-Console Cable Routing and Connection View

1. Ensure that the disc main power switch is switched OFF.
2. Route the HP-IB I/O cable to the processor I/O cable area as shown in figures 3-2 and 3-4. Appendix A identifies channel numbers.
3. Configure the CPU number select switch (S1) and the HP-IB device address switch (S2), located on the HP 12745A disc HP-IB controller board as follows: S1=0
S2=1

The HP 12745A is located in slot A1 of the HP 13037B disc controller. Ensure that the power source voltage matches disc requirements (see disc power label).

4. Connect the AC power cord from the disc drive to the wall receptacle that conforms to guidelines specified in the Site Preparation Planning Guide.

3-5. INSTALLING OTHER DISC SUBSYSTEMS

An HP 7906, 7920, or 7925 disc drive may be configured as slave disc drives for the HP 3000/30. The general installation of these discs is described in the following paragraphs and illustrations. The appropriate disc service and installation manual(s) should be referenced for detailed set-up instructions and parts lists.

3-6. SLAVE DISC(S)

1. Ensure that the disc main power switch is switched OFF.
2. Connect the AC power cord from the disc drive to the power source that conforms to guidelines specified in the Site Preparation Planning Guide.
3. Daisy-chain the slave disc(s) as shown in figure 3-2. Refer to the appropriate disc service manuals for additional information.

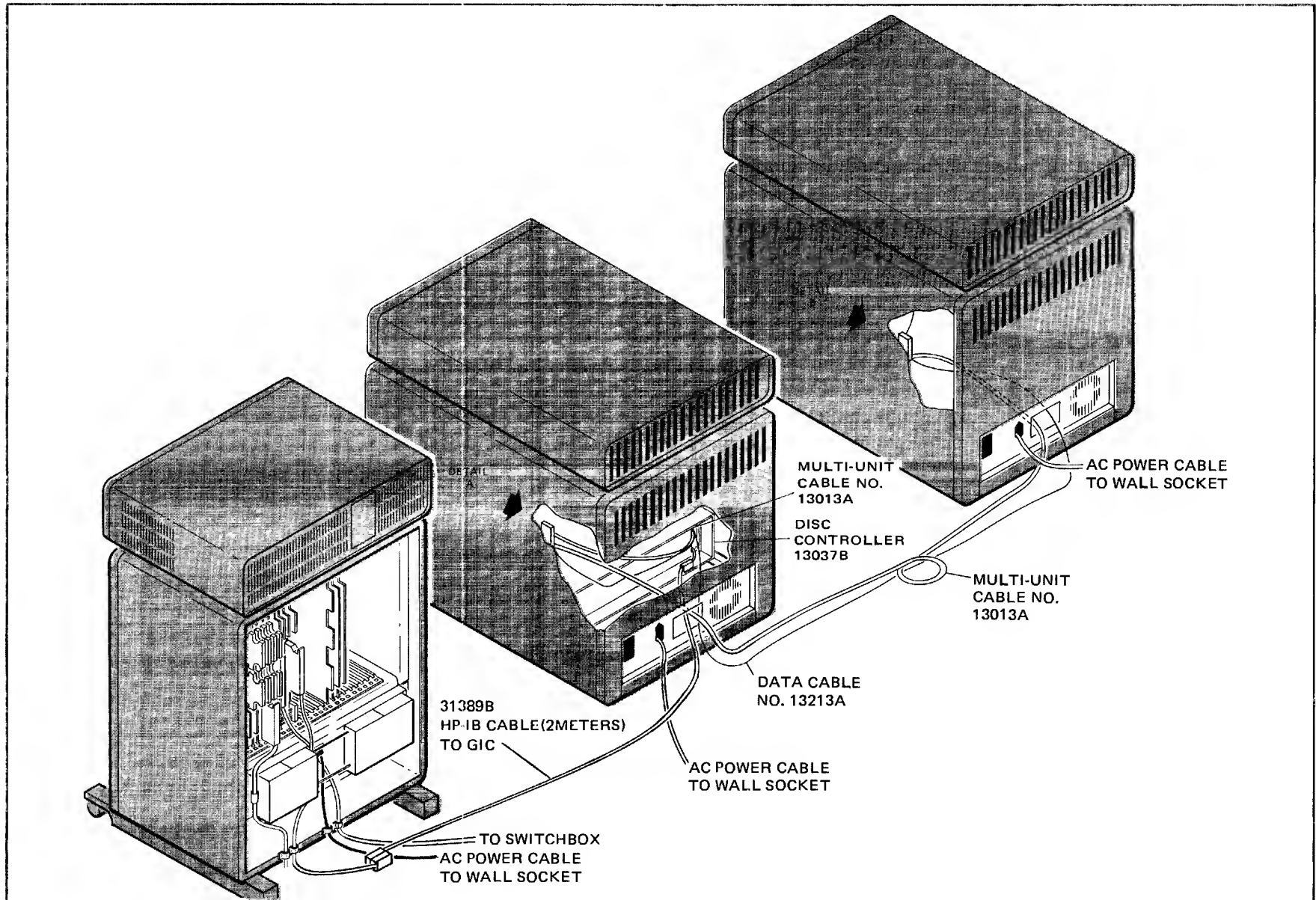


Figure 3-2. Master/Slave Disc Cabling

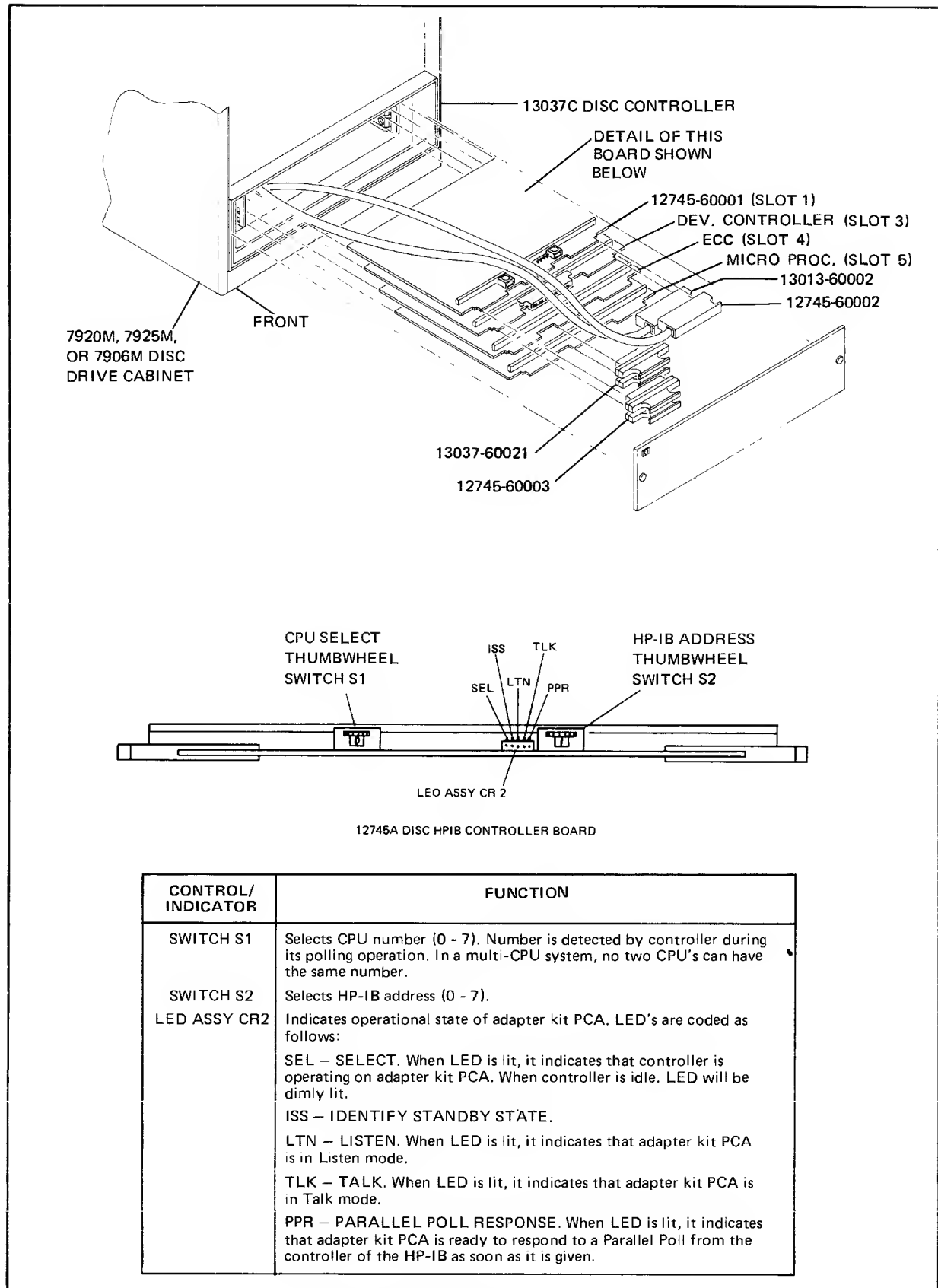


Figure 3-3. System Disc HP-IB Device Select Switch Cable Routing Area

3-7. INSTALLING THE OTHER PERIPHERAL DEVICES

Supported peripherals which are part of the system are listed in table 3-2. Supported RS-232 devices interface to the system through Asynchronous Data Communication Channels (ADCC) and associated switch boxes, and all others through General I/O Channels (GIC).

Table 3-2. HP 3000/30 Peripheral Devices

Device	Model	Channel Type
Terminals	264xx family	ADCC
	2635A	ADCC
	2621A/P	ADCC
Line Printer	2608A Opt. 333	GIC
Line Printer	2631A Opt. 333	GIC
Mag Tape(master)	7970E Opt. 426	GIC
Mag Tape(slave)	7970E Opt. 425	N/A

In general, installation of peripheral devices consists of connecting an HP-IB interface cable or RS-232 cable and AC power cord. The installation of these devices is briefly described in the following paragraphs. Specific parts illustrations and procedures for correcting problems should be referenced in the respective service manuals. The following paragraphs apply to the installation of peripheral devices after they have been un-packed and moved into place.

3-8. HP 2608A Line Printer

The following steps apply to installation of single or multiple HP 2608A printer units. If necessary, refer to 2608 Service manual (p/n 02608-90904) or Tech. Ref. manual (p/n 02608-90903).

1. Ensure that the main power switch on the back of the printer is switched OFF.
2. Ensure that the source voltage matches the requirements of the printer (see the HP 2608A Power Label).
3. Configure the line printer to respond to a PARALLEL POLL by removing the WT5 to WT6 jumper on the 02608-60026 HP-IB PCA.

4. Connect the power cable to the printer and to the power source.
5. Configure the printers HP-IB Device Address as specified in Appendix A. Five mini rocker switches, located at the rear of the printer select the HP-IB Device Address. The logic of the switches are defined in octal as follows:
 - ON = Logic 1
 - LSB= Switch #1
 - MSB= Switch #5
6. Fasten the HP-IB cable(s) to the HP-IB connector at the rear of the printer(s) .
7. Route the HP-IB cable to the processor cable area as shown in figure 3-4. Connect the cable to the GIC channel as specified in Appendix A.

Daisy chain the HP-IB cable from printer #2 to the HP-IB connector on printer #1, fastening the two HP-IB connectors together.

3-9. 2631A Line Printer

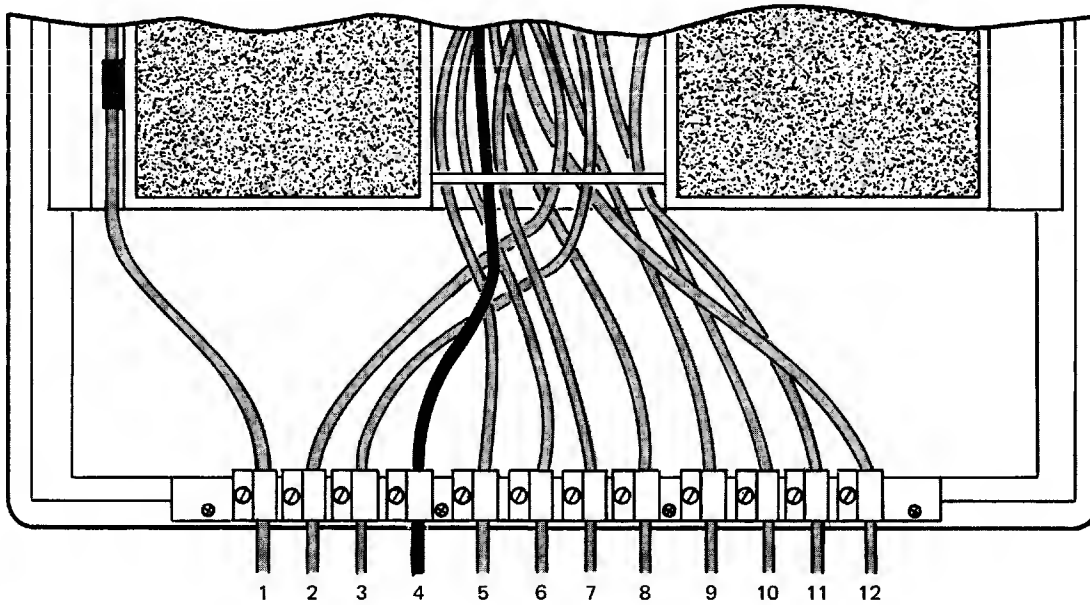
The following steps apply to the installation of single or multiple HP 2631A printer units.

1. Follow steps outlined for the HP 2608A printer except observe the following difference concerning the HP-IB Device Address switches. Seven mini-rocker switches at the rear of the printer (next to the HP-IB cable connector) select the HP-IB Device Address, Service Request(SRQ), and Listen Always (LA) modes. The logic of the switches is defined in octal as follows:

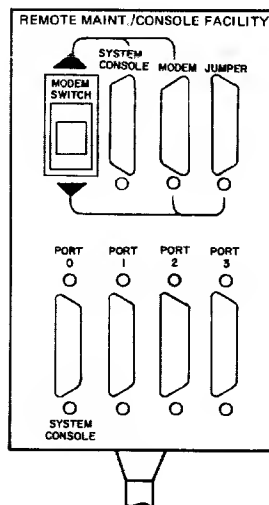
- ON = Logic 1
- LSB= Switch 5
- MSB= Switch 1
- Listen Always= Switch 6
- Service Request = Switch 7

NOTE

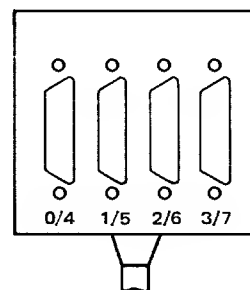
Always set switch 6 (LA) and switch 7 (SRQ) to OFF position when this printer is used on the HP 3000/30 System.



ITEM	FROM	TO
1	MI	System Console Async D.C.
2	ADCC	Switch Box (see below)
3	ADCC	Terminal Quad Box (see below)
4	GIC	System Disc and Line Printers
5	GIC	Magnetic Tape
6	Power Cord	Power Receptacle
7-12	ADCC or other I/O	Additional Terminal Quad Boxes or other specified I/O (INP)



SWITCHBOX



QUAD BOX

Figure 3-4. Cable Routing Area

3-10. HP 7970E Option 426 Magnetic Tape (Master)

1. Make certain that the magnetic tape drive main power switch, located on the front of the unit, is switched OFF.
2. Make certain that the source voltage matches the requirements of the magnetic tape. (See the HP 7970E Power Label.)
3. Connect the AC power cord from the magnetic tape unit to the wall receptacle that conforms to specifications in the Site Preparation Planning Guide.
4. Configure the magnetic tape drive HP-IB device address switch, as illustrated in figure 3-5, to the address specified in Appendix A.
5. Connect the HP-IB device I/O cable to the magnetic tape HP-IB connectors.
6. Route the HP-IB I/O cable to the processor I/O cable area. Connect the cable to the associated GIC as specified in Appendix A.

3-11. HP 7070E Option 426 Magnetic Tape (Slave)

1. Make certain that the magnetic tape drive main power switch is switched OFF.
2. Make certain that the source voltage matches the requirements of the magnetic tape (see the HP 7970E Power Label).
3. Connect the AC power cord from the magnetic tape unit to the wall receptacle that conforms to specifications in the Site Preparation Planning Guide.
4. Follow cabling instructions as described in the HP 7970E Magnetic Tape Unit Service Manual (07970-90919).

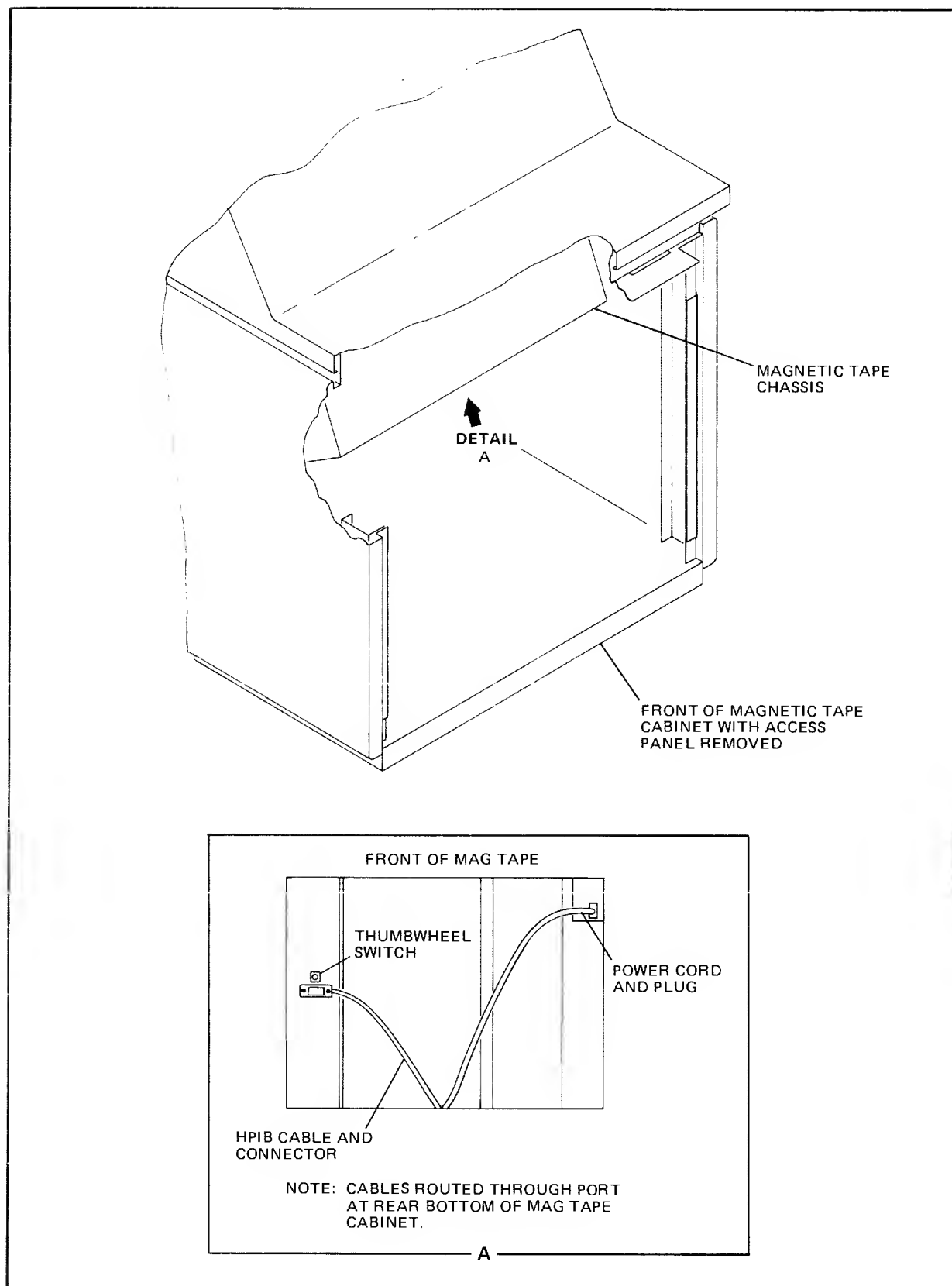


Figure 3-5. Magnetic Tape HP-IB Device Address Switch and HP-IB Cable and Connector

3-12. Terminals

1. Ensure that the terminal main power switch is switched OFF.
2. Make certain that the power source voltage matches terminal requirements (see the HP 264x power label).
3. Connect the AC power cord from the terminal to the wall outlet that conforms to specifications in the Site Preparation Planning Guide.
4. Connect the RS-232 compatible cable and keyboard to the printed circuit edge connectors which have been notched to match the cable connectors, on the terminal.
5. Route the free end of the RS-232 cable from the terminal to the switch box. Connect it to the next available RS-232 terminal panel connector. (See figure 3-6.) If the switch box is full, route cables through terminal quad boxes.

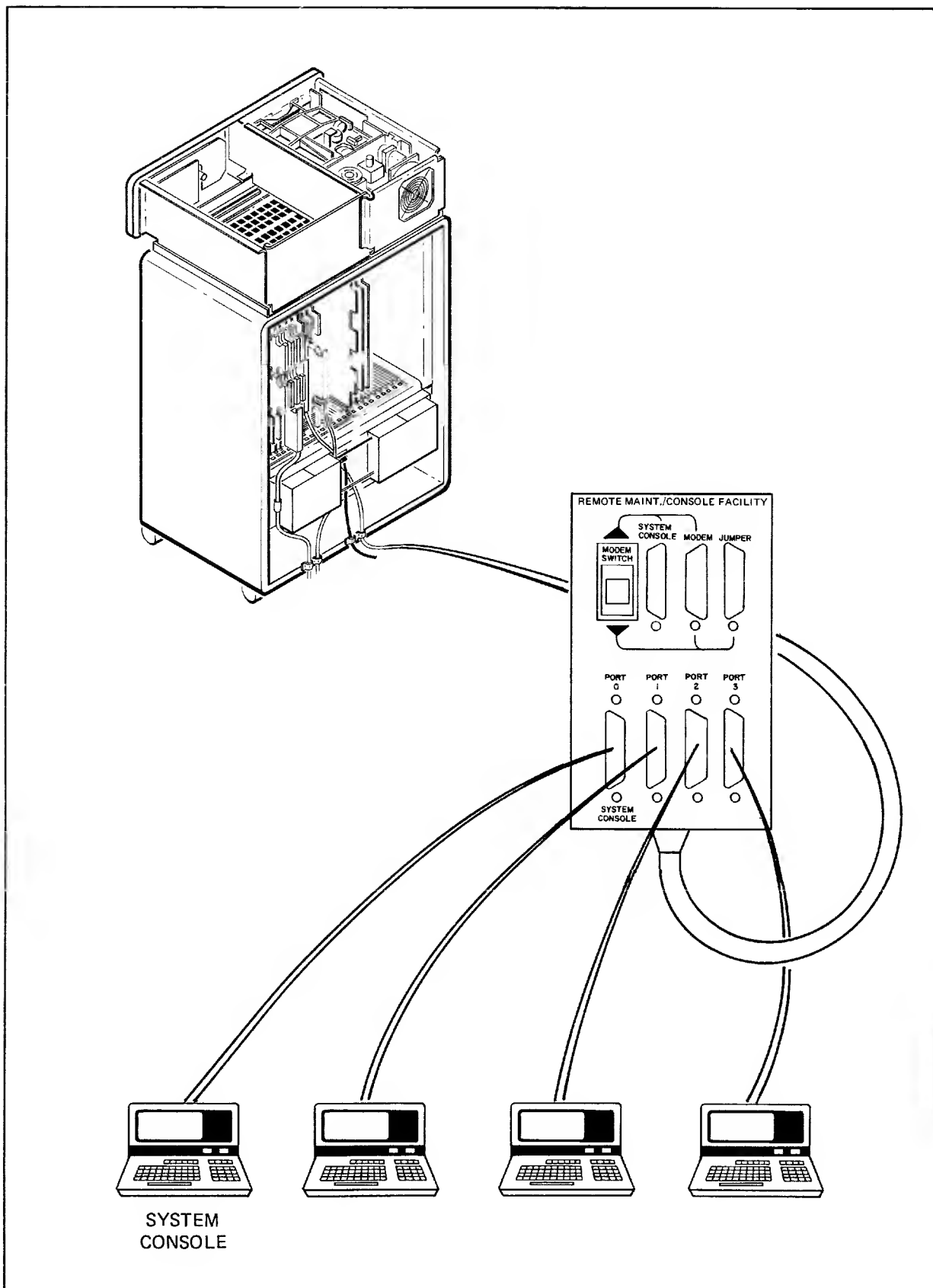


Figure 3-6. Processor Terminal Panel and RS-232 Cable Routing

TURNING ON THE SYSTEM

SECTION

IV

After the installation of the discs, the console, and the other devices, power can be applied to the system. The necessary steps in applying system power are outlined below and should be followed to assure proper system operation.

4-1. PROCESSOR/PERIPHERAL TURN-ON

1. Make certain that the rated power source voltage matches the processor's requirements. (See Power Configuration Label.) The source voltage measured at the wall receptacle, when loaded, must be within $+4\%/-10\%$ of the processor's input voltage requirement.
2. If the measured voltage is not within tolerance, change the switch settings accordingly. (See figure 4-1.) If the switches are changed, change the power configuration record label to reflect the current switch settings.
3. Plug the supplied power cord into the isolated ground wall receptacle (Hubbell TG 5362) for 60 Hz, or appropriate 50Hz receptacle.
4. Turn the Processor ON/OFF switch, located in the front of the unit to On (up) position.

NOTE

Ensure the cardboard Head-Protector, installed to prevent vibration during shipment, has been removed from the flexible disc unit.

5. Turn on and place all peripheral devices On-Line.

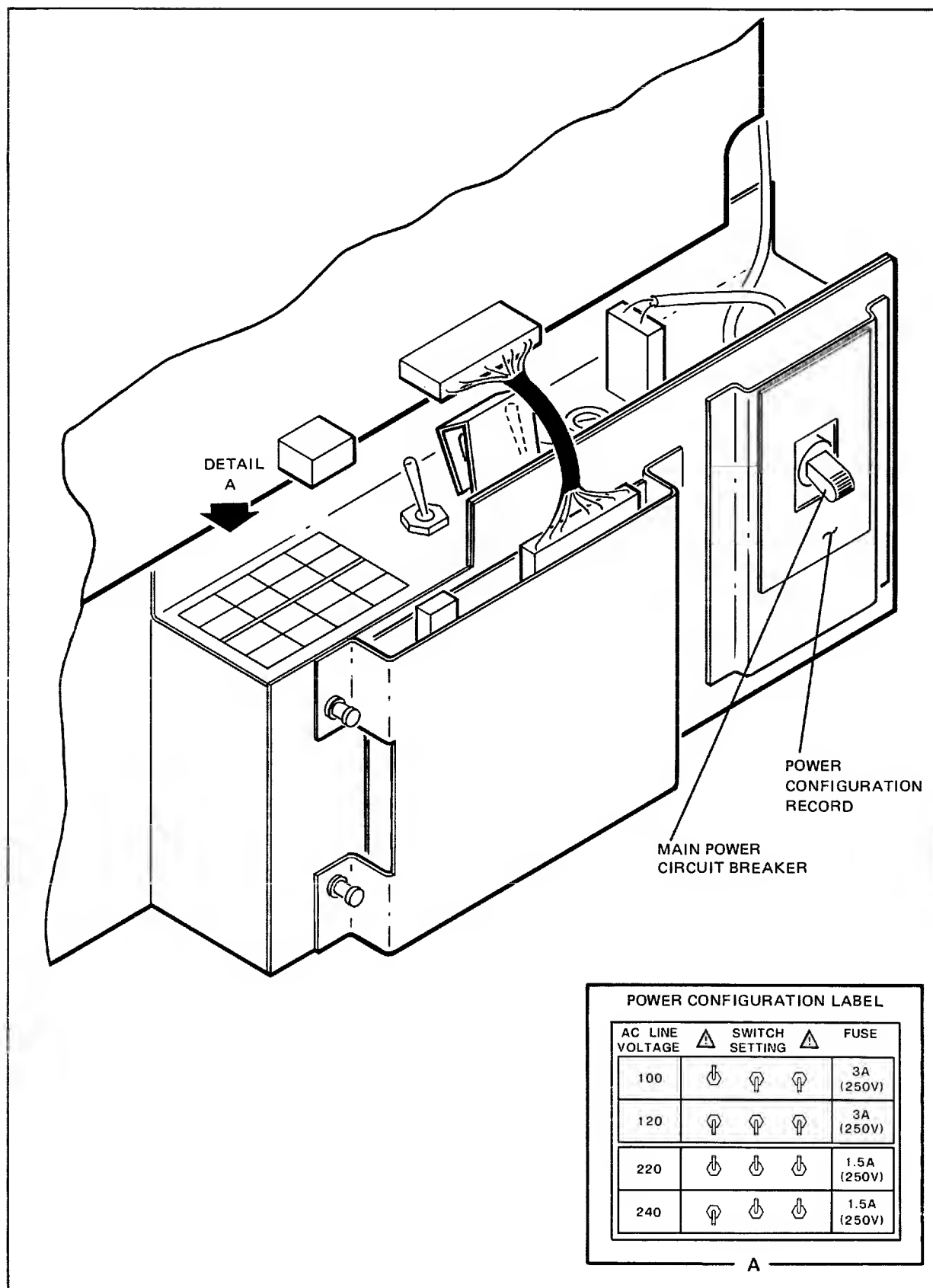


Figure 4-1. Power Configuration Label and Switch Settings

6. Ensure the operation of all processor unit fan assemblies and observe the following events associated with the power supplies.
 - a. The two power supply fans on each power supply should rotate.
 - b. The LEDs located on the backplane should light when power is applied to the system. (See figure 4-2.)
 - c. With an HP 970A voltmeter or equivalent measure the test point voltages on the backplane. Follow the specifications in table 4-1.

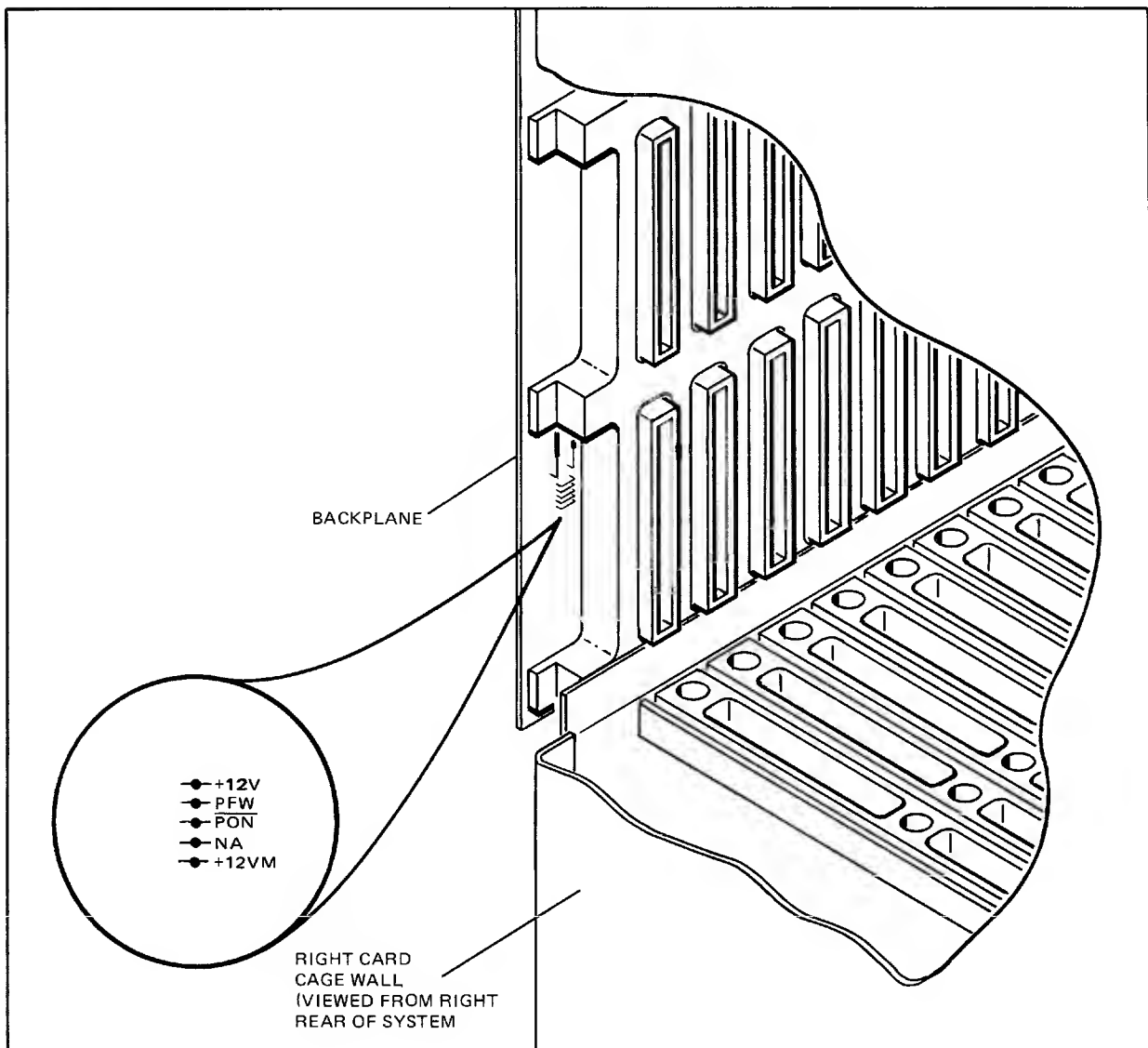


Figure 4-2. Backplane LEDs

Table 4-1. Test Point Voltages

Voltage Test Points	Min. Reading	Max. Reading	Ripple Voltage
+5v Volts	+4.90	+5.10	0.05 v p.p.
+12v Volts	+11.80	+12.20	0.075 v p.p.
-12v Volts	-12.20	-11.80	0.075 v p.p.
+5m Volts	+5.0	+5.2	
+12m Volts	+11.86	+12.34	
-12m Volts	-13.80	-10.20	
-12m Volts	-13.80	-10.20	

4-2. DISC DRIVE HEAD ALIGNMENT

Because the Heads could have moved during shipment and MPE III support of private volumes, Therefore; all disc drives installed on the system must be checked for properhead alignment as described in their respective service manuals.

SYSTEM VERIFICATION

SECTION

V

The system is verified in two steps:

The first is an OFF-LINE verification which checks the following areas:

- Cold Load Path
- Selected Assemblies
- Peripheral Devices

Step two is an ON-LINE activity which accomplishes the following:

- System Cold Load from Flexible Disc
- System Configuration
- System Utilization.
- WORKOUT2
- Power Fail Verification

Perform tests in paragraphs 5-1 through 5-4 to verify the Processor, Peripheral, and System Operation. Refer to your HP 3000/33 diagnostic binder when aid in running diagnostics or self tests is required. If a step does not successfully complete, corrective action is required before proceeding. Use the diagnostics and associated manuals to identify hardware problems. Use your 3000/30 and 3000/33 Reference Training Manual for any required technical descriptions of the processor components. Use the appropriate peripheral device service manuals for their specific hardware and maintenance descriptions.

Table 5-1. Available Device Tests

Device	Standalone	Sleuth Verifier	Self-Test	Sleuth Sim.	Cold Load* Self Test
7910A		x	x	x	
79XXA		x		x	
13037B	x			x	
2608A			x	x	
2631A			x	x	
7970E	x			x	
7902A	x		x	x	x
264XA			x		
GIC	x				x
ADCC	x				x
MEMORY	x				x **
CPU			x		x
MAINT. INTF.	x				
<p>* The cold load self test checks portions of the the 7902A, GIC, ADCC, CPU and Memory which are used during a Cold Load operation.</p> <p>** First 64K Words of Memory tested only in self test.</p>					

5-1. OFF-LINE VERIFICATION

1. Run the System Console Self Test.
2. Run the Maintenance Interface Diagnostic.
3. Run the System Cold Load Self Test.
4. Run the GIC, ADCC, and MEMORY standalone diagnostics

5. Type:"IOMAP"; a map of the I/O configuration of the devices connected to the system will be output to the console. Verify that all device and channel numbers correspond to the configuration matrix (See Appendix A.)
6. Run all appropriate diagnostics, self tests, and sleuth verifiers on any of the peripheral devices installed, including:
 - Printers
 - Magnetic Tape Drives
 - Disc Drives
 - Flexible Disc

NOTE

Format and verify all disc packs/cartridges. Upon completion of Format Procedure Flag all defective tracks. Refer to CE Handbook, p/n 300700-90010; Contributed SLEUTHSM Programs section.

7. Cold load the Diagnostic/Utility System as described in the diagnostic manual.

5-2. ON-LINE VERIFICATION

1. Ready all disc drives, referencing disc drive unit "0" as the system disc drive.
2. Locate the series of system flexible discs shipped with the system and load "Flexible Disc Number 1" into the flexible disc drive.
3. Ensure that the cold load thumb wheel switch on the system front panel is set to Channel=6; Device=2.
4. Cold load and configure I/O devices onto the system as described in the following procedure. This procedure describes one method for adding devices to the system. The description is a summary intended to provide a general guideline. Specific information must be obtained from the System Manager/System Supervisor Reference Manual.

STEP	PROCEDURE
1	On the System Control Panel, set the COLD LOAD thumb-wheel switch to the octal value of the DRT number (channel address and device address) of the flexible disc.
2	For startup from the System Control Panel, press the COLD LOAD key. For startup from the System Console, press the COLD LOAD key while pressing the CNTL key.
3	<p>Press RETURN on the System Console and respond to the Initiator prompts.</p> <pre> HP 32033v.uu.ff return WHICH OPTION <COLDSTART/RELOAD/UPDATE>? COLDSTART ANY CHANGES? YES LOAD MAP? return MEMORY SIZE=nnn.? return I/O CONFIGURATION CHANGES? YES LIST I/O DEVICES? YES LIST CS DEVICES? YES HIGHEST DRT?=nnn.? return or higher number LOGICAL DEVICE #? nnn DRT #? nnn UNIT #? nnn SOFTWARE CHANNEL #? n TYPE? SUB TYPE? RECORD WIDTH? OUTPUT DEVICE? ACCEPT JOBS/SESSIONS? YES or NO ACCEPT DATA? YES or NO INTERACTIVE? YES or NO DUPLICATIVE? YES or NO INITIALLY SPOOLED? YES or NO INPUT OE OUTPUT? IN or OUT (Spooled devices only) DRIVER NAME? (See Appendix D; of the Con- sole Operators Guide) DEVICE CLASSES? device class name LOGICAL DEVICE #? return MAX # OF OPEN SPOOLFILES=nn.? return LIST I/O DEVICES? return LIST CS DEVICES? return CLASS CHANGES? return LIST I/O DEVICES? YES DISC VOLUME CHANGES? return MAX # OF SPOOLFILES KILOSECTORS=nnn? return RECOVER LOST DISC SPACE? return </pre>

STEP	PROCEDURE
4	Dismount and mount flexible disc volumes as indicated to completly bring up the system. When the following message appears, the system is completely up. DATE (M/D/Y)? mm/dd/yy TIME (H:M)? hh:mm (24hr clock)

5-3. WORKOUT2

WORKOUT2 is an ON-LINE program that exercises the Disc and Magneetic Tape Drive units.

An example of using WORKOUT2 is given below and assumes the system has been brought up through "=SESSION".

Operator entries, in the example, are underlined. Pressing "RETURN" key in response to questions automatically selects the default answer.

NOTE

The program will allow only one more try after an invalid entry to a prompt is given. For example; the proper respose to "NUMBER OF DISC FILES?" should be a number from 0-64. If a number greater than 64 is inadvertently entered the program response would be "BAD INPUT--TRY ONCE MORE". A second invalid entry would result in a program response of "SORRY--YOU LOSE" and program termination. Which means, of course, you start all over.

```
:HELLO FIELD.SUPPORT,HP32231
```

```
-----
```

```
:LISTF
```

```
-----
```

(Check to ensure that WORKOUT2 is included in the listed files. If it is not restore it)

:RUN FREE2.PUB.SYS

(examine the "FREE" sectors shown. Each WORKOUT2 file requires 4096 sectors; smaller fragments cannot be used. For example, if 8000 sectors are available only one WORKOUT2 file will fit. If the disc is heavily fragmented, it may be necessary to do a Coolstart and "Recover Lost Disc Space" or a Reload.)

:SWITCHLOG

LOG FILE LOGxxxx IS yy% FULL
LOG FILE NUMBER nnnn ON

(You have closed Log File #xxxx and opened Log File #nnnn. Write down the number nnnn for use later on when LISTLOG2 is run. Press RETURN key to get ":" prompt back.)

:RUN WORKOUT2[;PARM=]

(Three options are available but not mandatory:

;PARM=1 Eliminates comparing data buffers after each READ ,and should not be used except for performance measurement.
;PARM=2 Causes END OF PASS messages to be displayed at System Console as well as with \$STDLIST.
;PARM=3 Accomplishes both of the above.)

NUMBER OF DISC FILES?2

-
(Assuming sufficient space was shown during "RUN FREE2" enter any number from 0-64. WORKOUT2 will attempt to open that number of files. Default is 0.)

LDN FOR FILE #1?1

-
LDN FOR FILE #2?1

-
(The above example assumes that only the system disc is on-line at this time. If more discs are present, any number from 0-255 may be specified. When zero is entered, WORKOUT2 spreads its files over all devices in class DISC. Default is 0.)

IS A SORT TO BE DONE? YES

(This question will not be asked unless the answer to "NUMBER OF DISC FILES?" above was 2 or greater. If a "YES" answer is given, it causes file #1 to be sorted and written to file #n; where "n" is the last file specified. For example, if you specified 2 disc files

above and answered this question with "Y" the program would write to file #1, read back the data, sort it, then write it to file #2. Doing a sort significantly lengthens the program run time, thus it is not recommended. Default is NO.)

NUMBER OF TAPE FILES?1 (if a tape unit is available)

(Enter a number from 0-4. Default is 0.)

NUMBER OF PASSES?1

(Any number from 0-32766 may be entered. Default is 0, which causes the program to terminate immediately.)

?TIME/SESSION #/PIN #/LDEV #FOR "WORKTAPE1" ON TAPE (NUM)?

=REPLY PIN#, LDEV#

(Be sure you have mounted a "scratch" tape or one whose current contents you do not object to losing.)

TIME START

(WORKOUT2 now attempts to open the files. If all are successfully opened, no message will appear. If any file cannot be opened, a message to that effect will appear, followed by a message telling how many files were successfully opened.)

TIME END OF PASS 1

END OF PROGRAM

:LISTF LOG@.PUB.SYS

(The purpose here is to learn if there have been any new logs opened after number nnnn above.)

:HELLO MANAGER.SYS

(In order to run LISTLOG2, below, you must have System Manager capability. Thus we exited from FIELD.SUPPORT and logged onto MANAGER.SYS.)

:RUN LISTLOG2.PUB.SYS

ENTER FIRST AND LAST LOG FILE TO BE ANALYZED

FIRST?_____ (Enter nnnn from above)

LAST?_____ (If no new logs have been opened after number nnnn, LAST will also be nnnn.)


```

ENTER EVENTS TO BE PRINTED
TYPE NO.      EVENT
  0          LOG FAILURE
  :          :
  :          :
  :          :
  :          :
  11         I/O ERRORS
  :          :

```

ENTER EVENT NUMBERS SEPARATED BY COMMAS. A CARRIAGE RETURN ASSUMES ALL EVENTS WILL BE EVALUATED.

(LISTLOG2 output will be directed to Line Printer.
Ensure unit is On-Line. For additional information
refer to MPE Utilities manual.

```

11 (An entry of 11 is shown, since we are only interested in
-- I/O errors.)

```

DO YOU WANT TO PURGE LOG FILES? NO

--
(If the previous FREE2 listing indicated the disc was
getting low on space, you may wish to enter YES to
purge the log files.)

DO YOU WISH TO RUN AGAIN (Y OR N? N

END OF PROGRAM

(Examine LISTLOG2 printout for Disc and Tape errors.)

5-4. SYSTEM POWER FAIL RECOVERY VERIFICATION

Now that the system is up and WORKOUT2 has completed one pass, the Power Fail test should be performed.

Prior to performing the Power Fail test the following conditions should exist:

- a) SYSDISC configured as LDEV #1
- b) SYSDISC pack installed on master drive

To perform the Power Fail test run WORKOUT2 again, only this time:

- a) Answer YES to "IS A SORT TO BE DONE?"
- b) Answer 0 to "NUMBER OF TAPE FILES?"

- c) Answer "NUMBER OF PASSES?" with a number high enough to ensure the program runs long enough for Power Fail test to be accomplished (approximately 3).

If the Customer's site permits, use Customer's breaker box to simultaneously power fail the system and all discs associated with the system. Power fail the system by either tripping the AC Main Power Source breaker or by disconnecting the system, Console, and Sys Disc power plugs from the wall outlets.

Reconnect power after approximately 30 seconds. Verify successful recovery, by the following:

- a) WORKOUT2 resumes execution
- b) Depending on terminal timing, a power fail message may be displayed on the console when SYSDISC goes ready.
- c) System console does not "hang"
- d) System does not HALT or go into 100% utilization

Repeat this procedure for two additional cycles, using power fail periods of approximately 15 and 5 seconds.

5-5. SYSTEM BACK-UP

Back up the system to the flexible discs using the serialized formatted blank 7902A flexible discs shipped with the system, as follows:

- a. Log on to MANAGER.SYS and do a "Date 0" Sysdump. Refer to the Console Operators Guide for help, if required.
- b. Give all system flexible discs to the customer for safekeeping.
- c. Complete the GSD System Installation Report form located in the System Suport Log.

Conduct System Operator training as outlined in Section 6 and then release the system to the customer for usage.

TRAINING THE NEW SYSTEM OPERATOR

SECTION

V

The CE is responsible for familiarizing the operator with the operation and the periodic customer maintenance of the HP3000/30 Computer System. The main source of information the CE should use is the "Functions of the Console Operator" section of the Console Operator's Guide and System Support Log. General information covering the following topics should be discussed.

- Supplied System Documentation
- Power On/Off
- Front Panel Operation
- Daily Maintenance
- Connecting Data Terminals
- Flexible Disc Operation
- Other Peripheral Device Operation
- Cold Load Self Test
- Remote Maintenance Facility
- Warmstart
- Coldload
- Shutdown
- Taking a Memory Dump - Build a soft dump diskette per Appendix "G" in Console Operators Guide.
- System Backup
- Conditioning Private Volume disc using VINIT
- Serialize Disc Packs/Cartridges

HARDWARE CONFIGURATION

APPENDIX

A

Table A-1. HP-IB Device Configurations

System Peripheral Device	HP-IB Device Address	GIC Slot lb.	GIC Channel No.	HP-IB	
				Cable (std)	Length (ext.)
7970E Master	1	A9	5	6 meters	0 meter
2608A/2631A					
1st	3	A8	6	2 meters	*
2nd	4	A8	6	2 meters	*
System Disc	1	A8	6	2 meters	0 meter
7902	2	A8	6	N/A	N/A
<p>*Up to a 2 meter HP-IB cable extension may be used anywhere in the Lineprinter cable string if 2 printers are installed. A 4 meter HP-IB cable extension may be used if only one printer is installed.</p>					

Table A-2. Terminal Configuration

Baud: 2400 or Below (for auto speed sense)

System Capacity: 32 Terminals (16 Terminals allowed
in block mode only)

Hardwire Cable Length: 50 ft.

ADCC Channel Numbers:	Terminals Numbers	Channel Number
	1 thru 8	1
	9 thru 16	2
	17 thru 24	3
	25 thru 32	4

12
SCREWS
6-32 X .312 FH 82°
2510-0049

ENDING BRACKET
30151-00011

CABLE ACCESS PLATE
ON LOWER REAR
30151-00001

NOTCHED
GROMMET
0400-0052

LID, RIGHT SIDE
30151-00005

TOP PANEL
30151-00002

REAR PANEL
30151-00004

PANEL THUMB
SCREWS
1390-0576

SCREEN
INSIDE
BOTTOM
7144-0451

30151-00008
INCLUDES BOTH
SIDES, BOTTOM
AND FRONT NAME
PLATE (MS)
30151A

30151-00003
LID, TOP PORTION

LID LEFT END
30151-00006

CABLE STRAP

30151-00007
FRONT PANEL WITH 4
CUTAWAY SECTIONS FOR
CONNECTOR PLATES

Figure B-1. Remote Junction Box

30151-60002

AVAIL AFTER 15 FEB

Part No. 30080-90001
Printed in U.S.

